CLAIMS

1. A desulfurizing agent manufacturing method comprising mixing a mixture containing a copper compound and a zinc compound with an aqueous solution of an alkali substance to prepare a precipitate, calcing the resultant precipitate, forming the calcined precipitate into a shaped form of a copper oxide - zinc oxide mixture, impregnating the shaped form with iron and/or nickel, calcining the impregnated form to produce a calcined oxide, and reducing the calcined oxide with hydrogen.

2. The desulfurizing agent manufacturing method according to claim 1, wherein the iron and/or nickel content in the calcined oxide is 1 to 10 wt %.

3. The desulfurizing agent manufacturing method according to claim 1 or claim 2, wherein reduction of the calcined oxide is performed at 150 to 300°C using dilute hydrogen gas in which the hydrogen concentration is 6 vol % or less.

4. A desulfurizing agent manufacturing method comprising mixing a mixture containing a copper compound, a zinc compound and an aluminum compound with an aqueous solution of an alkali substance to prepare a precipitate, calcining the resultant precipitate, forming the calcined

precipitate into a shaped form of a copper oxide - zinc oxide - aluminum oxide mixture, impregnating the shaped form with iron and/or nickel, calcining the impregnated form to produce a calcined oxide, and reducing the calcined oxide with hydrogen.

5. The desulfurizing agent manufacturing method according to claim 4, wherein the iron and/or nickel content in the calcined oxide is 1 to 10 wt %.

6. The desulfurizing agent manufacturing method according to claim 4 or claim 5, wherein reduction of the calcined oxide is performed at 150 to 300°C using dilute hydrogen gas in which the hydrogen concentration is 6 vol % or less.

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7. A hydrocarbon desulfurization method which is characterized in that a hydrocarbon raw material is desulfurized in the presence of hydrogen with using the desulfurizing agent described in any of claims 1 through 6.

8. The hydrocarbon desulfurization method according to claim 7, wherein an amount of hydrogen which is such that the hydrogen/hydrocarbon raw material molar ratio is 0.0005 to 0.4 is present.

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9. The hydrocarbon desulfurization method according to claim 7 or claim 8, wherein desulfurization is performed at a pressure of 0.05 to 50 atm, a temperature of 100 to 400°C, and a space velocity (GHSV) of 200 to 10,000 h^{-1}.

10. The hydrocarbon desulfurization method according to

claim 7, wherein the raw material hydrocarbon is town gas, and an amount of hydrogen is present so that the hydrogen/town gas molar ratio is 0.0005 to 0.4.

11. The town gas desulfurization method according to claim 10, wherein desulfurization is performed at a pressure of 0.05 to 50 atm, a temperature of 100 to 400°C, and a space velocity (GHSV) of 200 to 10,000 h^{-1}.

12. The town gas desulfurization method according to claim 11, wherein desulfurization is performed so that the sulfur content in the town gas is not more than 5 ppb (vol ppb).